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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,457	09/08/2003	Raymond Curtis Wallace	UTL 00122	9800

7590 08/12/2005

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EXAMINER

SEMENENKO, YURIY

ART UNIT	PAPER NUMBER
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2841

DATE MAILED: 08/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/657,457	Applicant(s) WALLACE, RAYMOND CURTIS	
	Examiner Yuriy Semenenko	Art Unit 2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 08 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 11-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

1. 1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claim 1-10, drawn to a quarter-wave transformer and a circuit card assembly, classified in class 333 subclass 35.
- II. Claims 11-15 drawn to a method for modifying an electrical parameter of an electrical component on a circuit board, classified in class 29 subclass 825.

1.2. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the process as claimed can be practiced with another materially different product such as dielectric filter.

1.3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

1.4. During a telephone conversation with Ms. Kathleen Connell (Reg. No. 45344), on August 4, 2005, a provisional election was made without traverse to prosecute the invention of Group I, claims 1-10 drawn to a quarter-wave transformer, and to a circuit card assembly. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-15 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

*Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.1. Claims 2-4, 6, 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Ito (Patent # 5528207 hereinafter “Ito”).

2.1.1. Regarding claim 2: Ito discloses in Fig. 6 a circuit card assembly, comprising: a dielectric material 11; a printed circuit board (p); and an electrical component (s1) disposed on the printed circuit board and having an electrical parameter that is sensitive to a dielectric constant of a substance 11 proximate to the electrical component, wherein the dielectric material 11 is attached to the printed circuit board (p) proximate to the electrical component and modifies the electrical parameter.

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2.1.2. Regarding claim 3: Ito discloses in Fig. 6 a circuit card assembly, according to claim 2, wherein the dielectric material 11 is in a form of a block.

2.1.3. Regarding claim 4: Ito discloses in Fig. 6 a circuit card assembly, according to claim 2, wherein the dielectric material 11 is attached to the printed circuit board (p) and is disposed on top of the electrical component (s1).

2.1.4. Regarding claim 6: Ito discloses in Fig. 6 a circuit card assembly, according to claim 2, wherein the electrical component (s1) is a trace. (column 3, lines 29-32).

2.1.5. Regarding claim 8: Ito discloses in Fig. 6 a circuit card assembly, according to claim 2, wherein the dielectric material 11 is attached to the printed circuit board (p) via pads (m1, m2) on a surface of the dielectric material.

2.1.6. Regarding claim 9: Ito discloses in Fig. 6 a circuit card assembly, according to claim 2, wherein the dielectric material 11 is in direct contact with the electrical component (s1).

2.1.7. Regarding claim 10: Ito discloses in Fig. 6 a circuit card assembly, according to claim 2, wherein the electrical parameter is modified as a function of an orientation or a position of the dielectric material relative to the electrical component.

2.2. Claims 2, 5, 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Brown et al. (Patent # 2004/0095202 hereinafter "Brown").

2.1.1. Regarding claim 2: Brown discloses in Fig. 1 a circuit card assembly 100, comprising: a dielectric material 108; a printed circuit board (102); and an electrical component (110) disposed on the printed circuit board and having an electrical parameter that is sensitive to a dielectric constant of a substance 108 proximate to the electrical component, wherein the dielectric material 108 is attached to the printed circuit board (102) proximate to the electrical component and modifies the electrical parameter.

2.1.2. Regarding claim 5: Brown discloses in Fig. 1 the circuit card assembly 100, according to claim 2, wherein the dielectric material 108 is attached to the printed circuit board and is disposed under the electrical component, (see Fig.1).

2.2. Regarding claim 10: Brown discloses in Fig. 1 the circuit card assembly 100, according to claim 2, wherein the electrical parameter is modified as a function of an orientation or a position of the dielectric material relative to the electrical component (page 2, [0018]).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3.1. Claim 1 is rejected under 35U.S.C. 103(a) as being obvious over Brown in view of Ito .

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3.1.1. Regarding claim 1: Brown discloses in Fig. 1 a quarter-wave transformer 100 in a handheld wireless communications device, comprising: a trace 111, 112 positioned on a substrate 102, and a dielectric 108, wherein relative position or orientation of the dielectric block with respect to the trace affects the electrical properties of the trace,

except, Brown doesn't explicitly teach dielectric block mounted on the substrate and disposed on top of the trace.

Ito discloses in Fig. 6 dielectric block 11 mounted on the substrate (p) and disposed on top of the trace (s1) and (s2). Therefore, at time the invention was made, it was well known to use dielectric block mounted on the substrate and disposed on top of the trace.

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for Brown to include in his invention dielectric block mounted on the substrate and disposed on top of the trace.

Benefit of doing so is to simplify tuning of the electrical parameters of the system.

3.2. Claim 7 is rejected under 35 U.S.C. 103(a) as being obvious over Ito in view of Levine et al. (Patent # 20020175779 hereinafter "Levine").

3.2.1. Regarding claim 7: Ito discloses in Fig. 6 a circuit card assembly in Fig. 1 having all of the claimed features as discussed above with respect claim 2,

except, Ito doesn't explicitly teach the dielectric material is attached to the printed circuit board via adhesive dots attached to the printed circuit board.

Levine discloses in Fig. 1 the dielectric material 110 is attached to the printed circuit board 105 via adhesive 125 attached to the printed circuit board.

Therefore, at time the invention was made, it was well known to use adhesive to attach the dielectric material to the printed circuit board.

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for Ito to include in his invention the dielectric material is attached to the printed circuit board via adhesive attached to the printed circuit board.

Benefit of doing so is to provide precise position of dielectric material on the printed circuit board.

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Although, Ito doesn't explicitly teach that shape of adhesive is as a dot shape of adhesive, at time the invention was made, it was old and well-known to use adhesive dots to attach the dielectric material to the printed circuit board. This shape is one of many known shapes for adhesive layer. And further, it has been held in *re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) that configuration of the claimed disposable plastic nursing container was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed container was significant.

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for Ito to include in his invention the dielectric material is attached to the printed circuit board via adhesive dots attached to the printed circuit board.

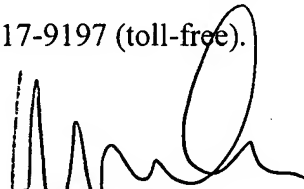
Benefit of doing so is to easily take off dielectric material from the printed circuit board and easily reposition it again.

4.1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuriy Semenenko whose telephone number is (571) 272-6106. The examiner can normally be reached on 8:30am - 5:00pm.

4.2. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (571)- 272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

4.3. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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